505 might hear a piano or phonograph music from somewhere. That they still must quickly take a look at. The entire crowd rushes busily into the house concerned and up the stairs. Their curiosity is soon satisfied and they come down again and now they must be off quickly so as to be able to make use of the tide current. Their
501 unpainted canoes are 8 to 10 meters (Translator--about 8 to 10 yds.) in length and from 70 to 90 centimeters (Translator--2 1/3 to 3 ft.) in width. They are slim and pleasing in shape and have
[507] black colored decorations around the edges. Each one of them accommodates from 5 to 8 persons, close together, with their meager belongings. They paddle along nimbly with their leaf-shaped oars and, while their canoes glide along silently and swiftly, the entire crowd has soon disappeared in the mouth of the
486 Mira River. It will take them two days to reach their hometown.
648 During the journey they camp in the open over night, somewhere along the shore, in an empty pasture. But they have to be careful. Occasionally they are attacked and robbed there by Negroes, and if they resist, they are murdered in cold blood. Only recently a whole group of them, men, women and children, 14 persons altogether, were most cruelly murdered on the Mira River by some bestial Negroes.

101 [285] However, our friends will now have arrived home safe
• 392 and sound on the upper Cayapa River. They are greeted from afar
361 by the friendly smoke of their own hearths. Their villages con-
824 sist of a few, widely dispersed bamboo huts of a most primitive type. A few uncut tree trunks have simply been rammed into the earth in a rectangle. The floor is at a height of 3 to 4 meters (Translator--ca. 3 to 4 yds.) and is made of split bamboo. Above this, at an equal distance, is the roof made of coconut (?) palm (Iriartea ventricosa) leaves. That is the entire structure. Since these houses have no walls, it is obvious that doors and windows are not
417 required either. The trunk of the Ceiba trees, light as a cork,
824 into which a few steps are hewn, serves as stairs. (The Ceiba tree
512 produces the silk-like bolso wool," called "Kapok" on the European market.) These stairs are obliquely leaned on, without being fastened anywhere. A hen-roost can be climbed more easily than one of these Cayapa ladders. In order to be somewhat safe from surprises by unwanted visitors, the ladders are drawn up to the living quarters overnight, and when a family goes on a trip, the ladder is thrown into the river and left to float away. After
822 all it is so simple and easy to fetch another Ceiba trunk from the nearby forest on returning and quickly hack a few step-like cuts into it with a chopping knife.

2: Murra E-4 (no date) 1943 SD6 Cayapa SD6

as that of the plantain. Almost every family owns its cane mill and distillery, which are supplied by the omnipresent canefields.

With all this emphasis on agriculture, the *Cayapa* are, nevertheless, a jungle people, skilled hunters of many species of rodents, deer, felines, peccaries, armadillos, and birds. Life at the riverside encourages and is encouraged by dependence on fish, crustaceans, shellfish, and crocodile eggs. Under aboriginal conditions the *Cayapa* were probably never hungry.

Hogs and chickens are now kept everywhere. Dogs are not conspicuously reported.

Food is mostly boiled, though frequently meat will be broiled or baked. Surpluses are dried and smoked.

HOUSES AND VILLAGES

Though maps traditionally locate *Cayapa* "villages," these are nothing but agglomerations of three or four houses and a church. The houses stand empty most of the year and are used only at holidays when the priests visit the *Cayapa*.

The actual habitations of the people are spread through the jungle, always at riversides (pl. 57, *top*) and usually isolated from one another by fields or even uncleared stretches. The houses stand on high poles 6 to 12 feet off the ground and are reached by removable ladders. The roof is thatched with palm leaves (pl. 57, *center*), and the rectangular house is virtually unenclosed. Sometimes the house floor is separated into two parts, one for cooking, the other for sleeping and eating. One chief had a large house (pl. 57, *bottom*) which could seat 40 people and which had more than two "rooms." The furniture is scanty: hammocks are used for sitting and sleeping, and wooden seats are sometimes found. An attempt by Barrett to correlate these seats with the famous stone seats of Manabi (Handbook, vol. 2, p. 780) seems very inconclusive.

In addition to permanent houses, small temporary ranchos are sometimes built when people are far from home. The houses in the "village" are standard structures, but the church follows Spanish ways: it rests on the ground and has walls.

CLOTHING AND ADORNMENT

Although *Cayapa* tradition records a period when the people wore blankets and even ponchos, today their clothes are scanty (pl. 59, *bottom*). The men wear a tight, small, white garment, made like bathing trunks, and a thin gaudy shirt of calico, with short and very tight sleeves. On festive occasions vests of European cut and manufacture are frequently donned over the shirt, and so are felt fedoras.

Women wear a long skirt of native cloth, girded with a narrow fringed belt. As in the Highlands, several skirts of different weights are sometimes worn. Head, shoulders, and chest are usually left bare.

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PLATE 57.—**Cayapa houses and village.** *Top:* Typical dwelling along river. *Center:* Unfinished house showing roof structure. *Bottom:* Chief's house at Sapayo Grande. (After Barrett, 1925.)

[p. 284(A)]

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

vations extending over a series of years were available, it would probably be found that the precipitation varies considerably from year to year. For instance, according to reports the winter months of 1909–10 were attended by an unprecedented rainfall. On the whole, therefore, it is safe to assume that the observations of the engineers referred to represent a fair average of the precipitation of this region.

In consequence of the great rainfall and the constant saturation of the ground, floods are frequent along all the rivers of this region. These freshets come, of course, only when there is a continuous and an unusually heavy fall of rain for several hours, or, as sometimes happens, for several days. In the latter event the Rio Cayapas rises several feet at its mouth, which is itself upward of a mile wide, and where the lowness of the bordering lands permits the stream to spread over wide areas. Farther up-stream, where the hills confine its waters, the river rises much higher; and at some points, where for considerable distances there are no low flood-plains and where the banks are steep, it rises as high as fifty feet.

As a result of such conditions there has been developed a form of pile-dwelling, the floor of which is raised from six to twelve feet above the ground. The Cayapa always endeavor to build their houses as near the river as possible, on account of their dependence on it as a means of travel and for other purposes. The floods, however, must always be taken into account in selecting a site even for such a pile-dwelling, since at times of such

3: Barrett E-5 (1908-1909)1925
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Indians. A number of these palms produce foods, and several provide leaves which are used in making house-thatch, while the trunk of one makes a durable flooring for houses. These matters will be taken up more specifically in the discussion of these subjects.

Another characteristic plant is the giant bamboo, which grows in clumps at frequent intervals along the banks of the rivers, especially along their lower courses. This bamboo often reaches a height of seventy feet or more, and has a basal diameter approximating ten inches. These immense stems serve various useful purposes, among the most important of which may be mentioned that of joists and rafters in house-building.

There is a great variety of trees in the jungle, many of which produce useful woods. Perhaps the most important uses of wood among the Cayapa are in house construction and in canoe-making. In the former the guayacan, which provides the almost indestructible pillars that support the pile structures, is of greatest importance. Several varieties of trees are used in canoe-making, but two or three kinds are preferred to all others.

Another characteristic of the jungle is the association of many species of plant life together in one area. Whereas in the North Temperate zone it is customary to see large tracts of land occupied by a single principal species of tree, such as the pine, in this Ecuadorian region a considerable number of trees of one species growing close together and in such manner as to form anything comparable with a grove is rarely seen. As a

3: Barrett E-5 (1908-1909)1925
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rule the various species of trees are associated in a strictly heterogeneous manner, and in all cases there is a fairly dense undergrowth, besides vines and aerial roots in abundance. These latter hang from the trees in such profusion as alone to make it necessary to cut a trail in proceeding even for a short distance by land.

Of these aerial roots the one known by the local Spanish term *pitigua* deserves special mention. It is very strong and durable, is little affected by climate, and is not attacked by insects. It is, therefore, extensively employed in binding joints in house-building, and indeed wherever a good binding material is needed. It is also extensively used in making certain kinds of basketry.

This general mention of the natural vegetal resources of the Cayapa region will suffice for present consideration, but the separate plants and their particular uses will be treated in detail in the following pages in connection with matters with which they are particularly concerned.

The heterogeneity of the flora of the region, above referred to, is fortunate for its inhabitants, since it places nearly every kind of plant, on which so much of the culture of the Cayapa Indians depends, within comparatively easy reach of all. That the flora should be so varied in any given locality, and that any given species should be so generally distributed, is due to the almost identical climate, soil, and other environmental conditions throughout the region.

The following is a list of the principal vegetal resources, both indigenous and introduced, employed by the Cayapa:

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

motion is desired, a string with a grip is used. Occasionally a girl may be seen spinning a top, but it is primarily an amusement of the boys.

MATERIAL CULTURE

Buildings

The buildings of the Cayapa may be divided into four classes: the dwelling or regular abode, the rancho or temporary structure, the cane-mill and distillery, and the church, this last, of course, being of modern introduction. All these buildings, except the church, which is at ground level, are pile structures and are constructed according to a single general plan.

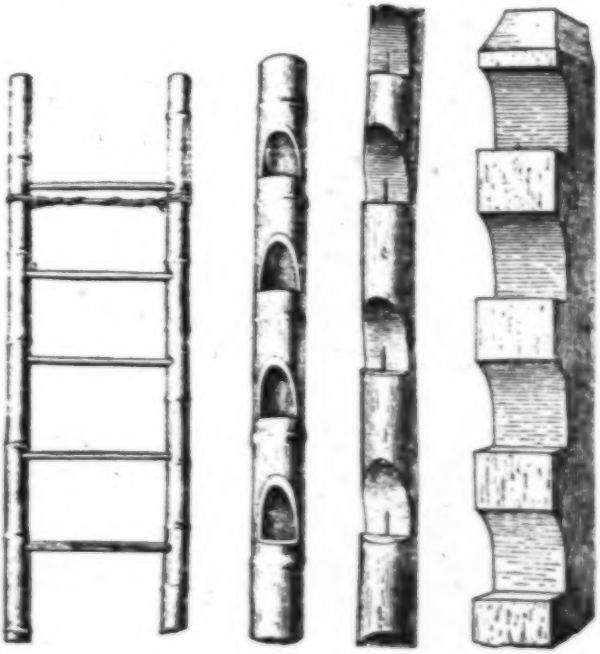
In pls. I-IV are shown typical dwellings. They are always rectangular in ground-plan (pl. XI), and vary in size according to the number of occupants, some reaching large dimensions. The dwelling of which the above-mentioned ground-plan is presented is 87 feet in extreme length and 41 feet in width. Dwellings are almost invariably situated along the river bank, and each is flanked by fields of sugar-cane, plantains, bananas, cacao, pineapples, and other crops. The dwellings are raised four to twelve feet from the ground, and access is gained by means of ladders such as those illustrated in fig. 1, especially those of the types shown in *a* and *d*.

The houses are fairly simple in construction. The framework consists of a number of heavy squared posts of a hard black wood called by the local Spanish name

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

342 guayacan, in which notches are cut at the level of the [824] floor (pl. XIII, *b*) to hold the stringers that support it. The tops of these posts are also notched for the beams that support the superstructure. The sides of the

[417]



a *b* *c* *d*

FIG. 1.—Types of ladders

[824] building are entirely unenclosed. The roof is steep and is thatched with palm leaves. Sometimes a single roof covers the whole building, as in those structures shown in pls. II, VII; but upon the larger buildings it is ordinarily in two parts, as indicated in pls. X, XI. While the floor in such a structure is continuous, the presence

3: Barrett E-5 (1908-1909)1925
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PL. I

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DWELLING AND ADJOINING CANE-MILL

BARRETT—CAYAPA INDIANS

[p. 46 (A)]

342 PL. II

BARRETT—CAYAPA INDIANS

DWELLING SHOWING ROOF EXTENSION AND BAMBOO RIDERS

[p. 46(B)]

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

of these two roofs serves to separate the building into two parts: one for the general living and sleeping room, the other for cooking. The structure is thus given the appearance of a double house, although the floors of the two rooms are always at the same level and the house is a unit in every respect except the roof. The double roof serves to exclude the smoke, which rises from the open fire-box in the kitchen, from the living and sleeping room. This division of the roof results in two inner gables, the eaves of which are brought within the area of the house itself (pl. XI, *h*, *i*) and under normal conditions would allow the rain-water to fall upon the floor. To prevent this, a large eaves-trough is made by hollowing out half of the long trunk of a species of palm locally called pambil (Cayapa, bū′iñ-tcī). The roof always projects a considerable distance beyond the edge of the floor, so that rain-water from the eaves falls at a distance of at least three or four feet from the sides of the building, and the eaves extend far enough down to prevent the wind from blowing the water back on the floor. As before stated, the ordinary dwellings have no sides, but their place is partly taken by a more or less elaborate railing, such as that shown in pl. V, which lessens the danger of one accidentally falling from the elevated floor. Raised platforms are frequently constructed at one or more points along the sides of the building. Such platforms are from four to ten feet in length and from four to seven feet in width, as are those shown in pl. XI, *e*. The roof is correspondingly extended to cover them. These platforms are raised usually

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

342 from four inches to a foot above the level of the main floor, and are most frequently used as sleeping platforms or as storage places for various articles.

352 In this region where the rainfall is so great and where the sun rarely shines, one of the serious problems is that of keeping clothing and other articles dry. To accomplish this, there is constructed at one side, usually at the rear of the house, or behind that portion in which the fire-box is situated, a drying platform, constructed of large bamboo stems laid side by side, without a roof, and ordinarily on or nearly on a level with the main floor. The convex surface of the bamboo permits the water falling upon it to drain readily to the ground, while the impenetrable outer surface of the bamboo permits no rain to be absorbed by it. Thus, in a few minutes after a rain, this raised platform is usually dry enough to permit the spreading upon it of clothing, or [227] of mats for the drying of cacao. At one side of this drying platform is placed a horizontal bamboo pole, usually as long as the platform and raised six or seven feet above it, for use in drying large fish-nets.

[251] On the rafters of the house, and hence high up in the interior, is constructed a platform, or loft (pl. XIV), usually of bamboo, which is used for the storage of old utensils, food, and articles not in daily use. Ordinarily this storage loft does not cover a space equal to more than one-quarter that of the floor of the house itself, and frequently it is much smaller, although always of sufficient capacity to accommodate all the surplus stores of the family.

3: Barrett E-5 (1908-1909)1925
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PL. III

BARRETT—CAYAPA INDIANS

TYPICAL DWELLINGS ALONG THE RIVER

[p. 48(A)]

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

In pl. XI is shown the ground-plan of one of the largest of the Cayapa houses. This is the largest of the four dwellings of the chief of the Punta Venado division, and is commonly called "*la casa grande del Gobernador.*" This structure is situated on the southwestern bank of the Rio Cayapas, at a point just up-stream from the confluence of the Herradura Grande. The house is occupied usually by at least two families, and can comfortably accomodate as many as forty people if necessary. The structural details of this dwelling are typical of those of Cayapa houses in general, although the others are somewhat smaller. This "casa grande" is 87 feet in extreme length by 41 feet in extreme width. The floor may be divided into two areas by the line *h-i*, which represents that along which the two inner gables meet and where the pambil eaves-trough is placed to prevent the water from running in on the floor. The larger floor area (*a*) is the general living and sleeping room, and is 50 by 35 feet, exclusive of the raised projections (*e*), which extend from six to seven feet in each case. This entire floor area is covered by a single large roof. The smaller area (*b*), about 30 feet square, is, as before stated, at the same level as the larger area, but it is covered by a separate roof, and it is here that the fire-box is situated and where all food is prepared and cooked. The fire-box (*c*) is 6 feet 4 inches by 3 feet 9 inches, and is raised about three feet from the floor. The projection (*d*), about 5 feet 6 inches wide and 19 feet 6 inches long, is at the same level as the main floor, but is made of bamboo. Here

3: Barrett E-5 (1908-1909)1925
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are kept the water calabashes, and the preparation of food is usually done on or near this space. All houses are provided with a similar place for the storage of the calabashes, although in most cases the space devoted to this purpose is much smaller. Unlike *d*, the several projections marked *e* on the plan are raised from four to twelve inches above the level of the floor. They are from 6 to 7 feet in width, and beginning at the lower left-hand corner of the plan, measure 12½, 8½, 15, 13, 11, and 9 feet, respectively, in length. These serve as storage places and are frequently used at night as places upon which to sleep. The inner edge of each of the areas *d* and *e* is, of course, supported upon the stringers of the main floor, but the outer edge in each case is held by two special posts which rest upon the ground and reach to the roof, which naturally must project beyond the main roof in order to cover the corresponding floor projection. These posts are indicated in the ground-plan by small rectangles, and are usually somewhat smaller than those employed to support the main floor. As shown on the plan, fourteen posts are used to support the main floor, the successive posts along each side being placed from eleven to twelve feet apart. The dimensions of these posts in cross-section are usually about six by nine inches. Access to this house is by means of two ladders (*g*), both of the type shown in fig. 1, *a*. In the case of one of them a special projection (*f*), 3 feet 3 inches by 5 feet 6 inches, has been built as a landing at the top of the ladder.

In pl. XIII is shown an elevation of the same house.

3: Barrett E-5 (1908-1909)1925
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DWELLING SHOWING RAILING IN LIEU OF WALLS

BARRETT—CAYAPA INDIANS

[p. 50 (A)]

3; Barrett E-5 (1908-1909)1925
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• 342.8

[p. 50(8)]

3: Barrett E-5 (1908-1909)1925
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The essential parts as shown here are the squared house-post (*a*), into the side of which is set, by means of a notch (of the type shown in fig. 4, *b*) a stringer (pl. XIII, *b*) running lengthwise of the house. Upon this rest the bamboo poles (*c*) which support the palm-

a *b*

FIG. 2.—Details of frame construction

wood floor (*d*). This floor is at a height of eight feet nine inches from the ground, into which the house-posts are set to a depth of three or four feet. The house-post projects seven feet above the floor level, and at its top is cut another notch (of the type shown in fig. 4, *a*, and 5) into which is bound another long stringer,

a *b*

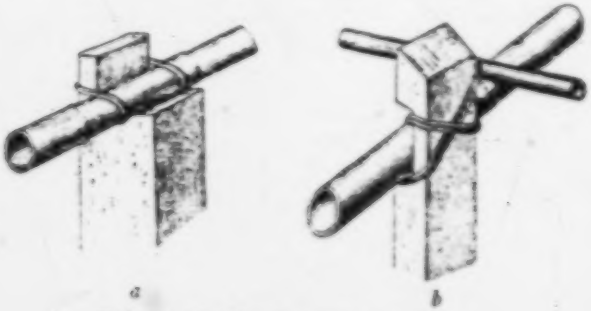
FIG. 3.—Details of frame construction

c, similar to *b*, and which forms the support for the entire superstructure. A corner of such a superstructure is shown in fig. 5, in which the parts are lettered to correspond with those shown in pl. XIII. In fig. 5 the point of observation is within the house. The longitu-

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

342 dinal stringer (*e*) projects three or four feet beyond the house-post, and upon this rests the transverse stringer (*f*) which projects about the same distance beyond

[284]



a *b*

FIG. 4.—Notches for receiving stringers

the former (*e*). Near the end of this projection rests another longitudinal stringer (*g*), upon which rest the lower ends of the rafters forming the side of the roof. In some structures the ends of the rafters of the gable

[284]

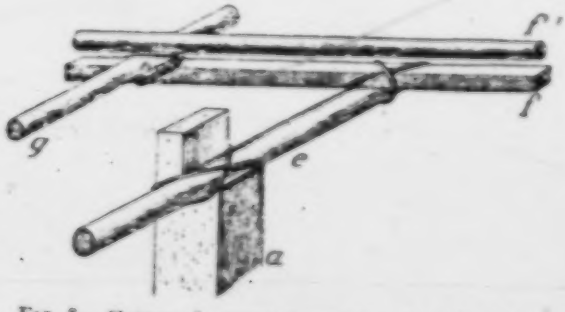
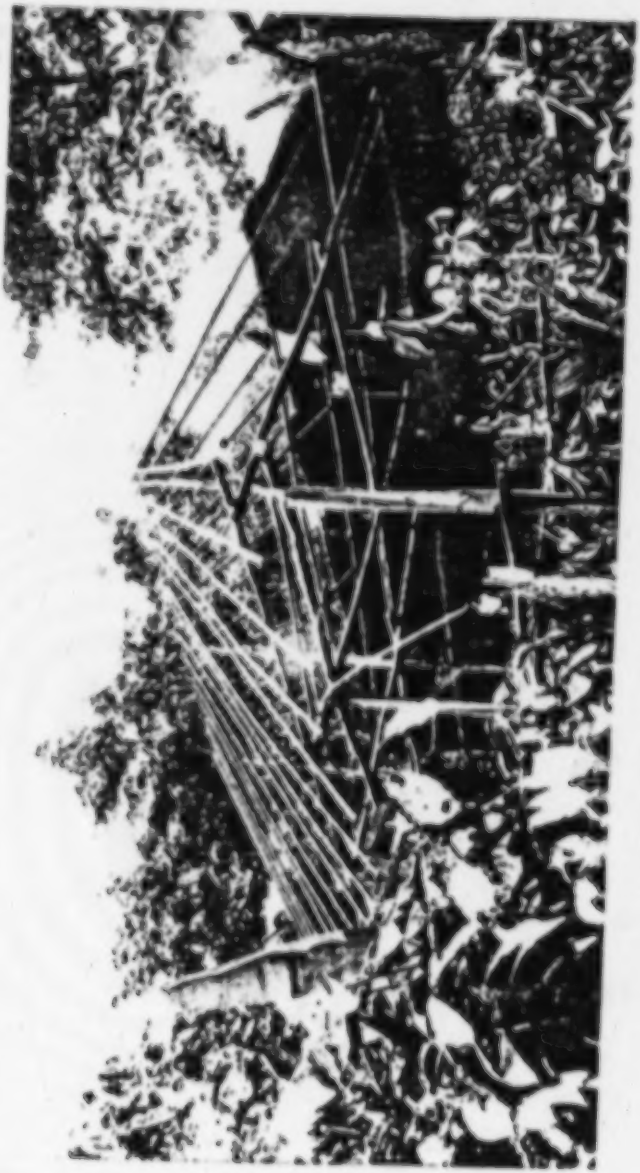


FIG. 5.—Corner of superstructure seen from interior

rest directly upon *f*, as is the case in the large house above mentioned, an elevation of which is illustrated in pl. XIII and also in the unfinished structure shown

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6



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UNFINISHED HOUSE, SHOWING ROOF STRUCTURE

BARRETT—CAYAPA INDIANS

[p.52(A)]

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

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VILLAGE OF PUNTA VENADO

BARRETT—CAYAPA INDIANS

[p. 52(B)]

3: Barrett E-5 (1908-1909)1925
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in pl. VII. In some other dwellings another transverse beam (fig. 5, *f'*) is used as the support for the gable rafters.

In practically all cases in which two such stringers cross or where a stringer passes through a notch in a post, the parts of such a joint are securely bound together by one or another of the several methods shown in figs. 2–4. The binding material is a durable aerial root, called pitigua in the local Spanish, which is gathered and kept on hand for this purpose and for making certain kinds of basketry. It is kept in coils such as that shown in pl. XCI, 4, and when dry it needs only to be soaked for a short time to render it pliable.

The roof frame of such a building consists of a short central ridge-pole (pl. XIV, *i*), supported by two and in some cases three stout vertical bamboos (*m*) which in turn rest upon a horizontal beam (*j*) running lengthwise through the center of the building. The ridge-pole is of such length as to give the gable roofs a pitch of about forty-five degrees. It varies, therefore, according to the proportionate dimensions of the structure, but is usually from a third to a half as long as the building itself. The bamboos supporting the ridge-pole are, in the case of the large dwelling above mentioned, 13 feet 9 inches in height. The bamboo rafters of the sides of the roof rest directly upon and are bound to this ridge-pole. Those forming each gable are fastened together by means of a palm-wood rod passing through holes near the small upper ends of the rafters. This rod is bound to the two end-rafters of the sides of the

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

roof, usually at a point two or three feet down from the ridge-pole. The other ends of these gable rafters are spread fan-like along the end beam (fig. 5, *f*, *f'*) of the superstructure so as to produce a complete frame for the attachment of the thatch of the gable. There is thus left at the top of this gable a small triangular opening, such as that shown in pl. X, which serves as a vent for the smoke from the open fire-box. The thatch is so laid on that it projects about two feet beyond the ends of the side roofs, while the thatch on the gable end just meets the underside of this projection. The projection of the ends of the side roofs in this manner prevents the rain from driving through the thatch along the line upon which the side and gable roofs meet, and it is also sufficient to prevent the entrance of rain through the triangular opening at the extreme top of the gable. The slant of the roof, both gable and side, is usually about forty-five degrees. The slant of the gable is regulated by the length of the short ridge-pole above mentioned. This whole construction of the superstructure of such a building is well illustrated in the unfinished dwelling shown in pl. VII.

The covering of the roof is a thatch of palm-leaves, usually those of the tagua, or ivory-nut palm. The necessity for a constant supply of these leaves, combined with the desire to perpetuate the supply of ivory nuts (since these are a source of considerable wealth), has caused the Cayapa to preserve carefully the groves of these palms. Even single palms growing quite apart from others are conserved. The trees, vines, and under-

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

DISTANT VIEW OF PUNTA VENADO

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[p. 5"(e)]

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

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[p. 54 (B)]

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

growth of the jungle are cut away from time to time around these palms, and about once a year, usually on the occasion of harvesting leaves for a thatch, the crown of leaves is trimmed. Any drooping dead leaves at the base of the crown are thrown away and the thoroughly mature healthy leaves only are selected for the thatch. Thus there remain at the center of this crown a number of young and more tender leaves which serve the needs of the plant itself and prevent damage to it which might otherwise arise from the loss of the mature leaves.

The tagua is a low-growing species of palm, the upper end of the stem, from which the leaves spring, rarely exceeding sixteen feet above the ground. The leaves are therefore easily gathered by means of a short ladder. This, combined with the fact that the tagua produces a very good quality of leaf, makes it almost the only species used for permanent thatch. While several other species of palm produce leaves of durable quality, they grow to such height that it is not expedient in most cases to gather the leaves except by cutting down the palm itself.

The tagua leaves, which reach an average length of about fourteen feet, have stout leaflets extending from the midrib at an angle of perhaps seventy degrees and for a distance of about three feet on each side of the midrib. To prepare the leaves for use, they are split in two along their midribs. Four of these half-leaves are then laid together so that the natural under-surfaces of the leaflets all face the same direction and the midribs are tied together with pitigua at two points.

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

342 [349] 314 A platform of bamboo is next constructed at an elevation of two or three feet from the ground. The split green leaves, prepared as above, are then placed on this platform and a thatch built over and around them so as to protect them completely from the weather. This is done usually at the place where the leaves are cut, probably more as a matter of convenience than for any other reason, since the leaves when green are very heavy but on drying become very light. They are allowed to season here for at least two months, after which they are transported to the point where they are to be used. In some cases, however, the freshly cut leaves are transported at once to the house for which they are intended and there cured.

This seasoning in a dry place is absolutely necessary, since if the leaves were placed on the roof while still green, the constant rains of this region would soon rot [825] them. It is further claimed that if used when green they are soon attacked by insects, especially cockroaches, which, as before mentioned, are very numerous and troublesome.

342 177 The negroes also use the tagua-leaf to a large extent for thatch, and in its preparation they are very strict in their observance of certain rules concerning the phases of the moon. No timber may be felled and no thatch leaves cut in the light of the moon. In the case of timber, it is claimed that it is both subject to the attacks of insects and is rendered much more likely to break or split in working if cut in the light of the moon than if cut in the dark of the moon. Likewise thatch

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

[p. 56 (A)]

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

cut in the light of the moon is practically worthless. The Indians, however, while they have adopted certain of the negro customs, and while they recognize this one to a limited extent, are usually much more governed by necessity and convenience in the cutting of the thatch or the felling of timber than by the phases of the moon. The bundles, or sets, of four half-leaves are applied directly to the bamboo rafters, the midribs of the leaves being quite sufficient to serve as horizontal supports for the thatch. Beginning at the eaves, the bundles are laid in courses in the same manner as are shingles. The natural underside of the leaf is placed uppermost, and the courses are laid with only about six to eight inches of the tips of the leaflets exposed to the weather. Each bundle is securely bound with pitigua, in from two to four places, to the rafters it crosses. By this overlapping process a thick and watertight roof is secured. The leaflets run directly down the slant of the roof, thus naturally tending to conduct the water from one tier of thatch to the next. Further, as above mentioned, the natural undersides of the leaflets are placed uppermost, and each of these leaflets forms a small shallow trough which readily conducts water. The thatch of the large house above referred to and illustrated (pl. XI) is no less than three inches, and in places probably four inches, in thickness. In this structure the northern gable of the section *a* consists of ten rafters covered with fifty-seven courses of thatch. The sides of this section consist of seventeen rafters covered with sixty courses of thatch.

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

342 The last courses of thatch covering the side roofs are so laid as to overlap one another and to securely cover the ridge-pole. Further, another special course or two are laid along the ridge so as to guard against any possibility of leakage. Surmounting the roof along this ridge-pole is in many cases a rider made of bamboo and consisting of two or more sets of short bamboo poles crossed at the ridge and extending from three to several feet down upon the sides of the roof. To the points where these sets cross are bound a horizontal pole which serves to tie them together and to form them into a strong unit. Such riders may be seen in pls. II, VIII, X.

Though such a roof is carefully made, it is likely to leak a little from time to time as some small portion of the thatch which was not properly cured gives way or as some leaflets are eaten by insects. Such a leak is [824] quickly and effectually mended by placing a green leaf of hoja blanca between the courses of thatch at this point. These tough leaves are from three to four feet long and from twelve to eighteen inches wide, and effectually shed the water. In case, however, a considerable section of the roof becomes leaky, the area affected is re-thatched with tagua-leaves.

Buildings of the second class, the rancho or temporary structure, are built on the same general plan as are the permanent dwellings, except that they are much more [824] rudely constructed. In place of the well-squared, durable house-posts, bamboo is generally used. Further, in lieu of a thatch of a more durable kind of palm-

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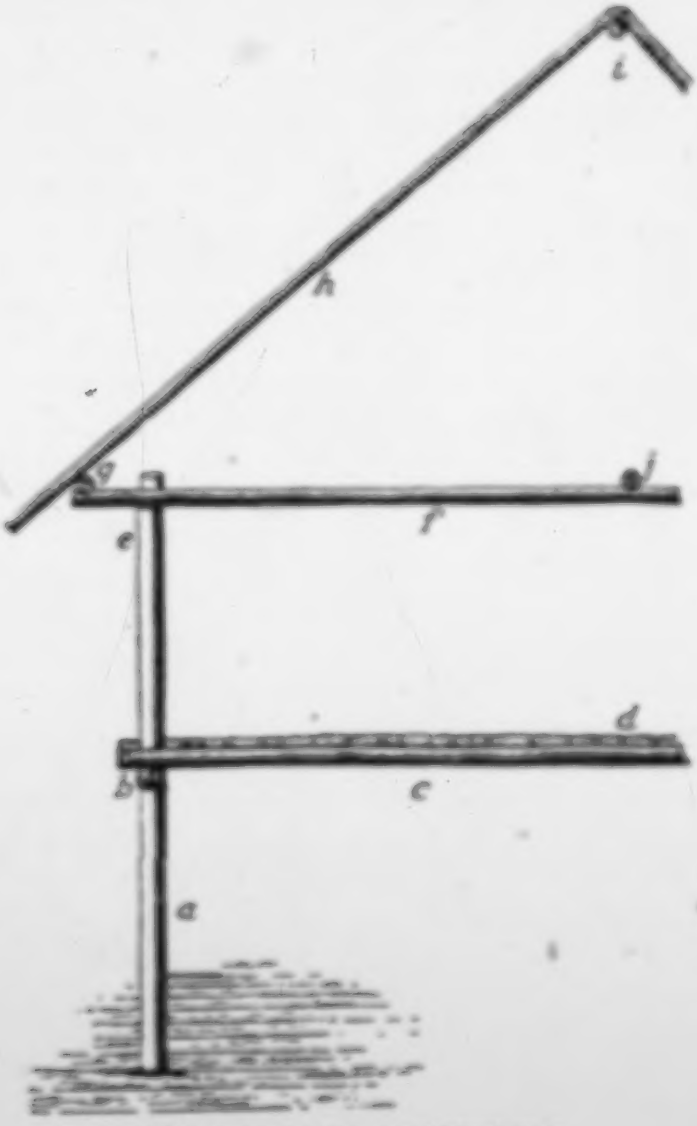

DETAILS OF HOUSE CONSTRUCTION

[p. 38(A)]

3: Barrett E-5 (1908-1909)1925
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leaf, a covering of the most available material is employed. The material used for this temporary thatch is usually a palm-leaf, but generally of some species of palm which provides a much less durable thatch than that used for the permanent dwelling. 342 [624]

These ranchos serve two purposes almost exclusively, namely, temporary shelters while traveling, and temporary shelters for work which lies too far from home to make daily journeys to and from the regular dwelling profitable. When traveling it is infeasible, not to say dangerous, to sleep upon the ground and without some kind of a roof, owing to the torrential rains which are almost sure to occur during the night, as well as to the danger from poisonous reptiles and other creatures. If, therefore, in traveling, it is impossible to reach a house by night, an early halt is made and a rancho constructed. This is rarely necessary except in case of a long trip over an uninhabited mountain trail, since along the navigable rivers are houses which may be reached in the course of the day's travel. Here the traveler, whoever he may be, is always welcomed according to the custom of the country, the unwritten law of which requires that shelter be given any traveler, whether he be an old acquaintance or a total stranger. When it is necessary, in gathering rubber or pita, in making canoes, or in doing any other work, to journey so far from the permanent dwelling as to make daily travel back and forth unprofitable, a small rancho is built. Such a structure may be used for a short time or for several seasons, it being re-thatched as occasion demands. In the [574] [609] [222]

3: Barrett E-5 (1908-1909)1925
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village of Punta Venado is such a rancho, built with its floor of bamboo resting almost upon the ground. On the other hand, ranchos that are built for regular temporary shelters such as those above mentioned, have their floors raised from two to four feet from the ground. This rancho in the plaza of the village is shown in pls. CXXXIII-CXXXIV. In the background of pl. CXXXII and pl. CXXXIII distant views are illustrated, and pl. CXXXIV shows it in detail and indicates its special and interesting use. During one day only of the year is this rancho occupied. At the fiesta held during Easter week the entire plaza is carefully cleared of its dense growth of weeds, grass, and vines, thus making access to the rancho possible. Before dawn on Easter Sunday itself, all dancing in the village ceases. The musical instruments are transferred to this rancho and a procession is formed which brings some of the images of saints from the church to the rancho, where they sit in state, as it were, throughout the day, while music is played before them almost constantly. It is said that this is the one day of the year when these saintly images can drink as human beings, and they are frequently offered guarapo, a calabash of this cane juice being placed to their lips as if they were in the act of drinking. During this time people are prohibited from drinking rum in the presence of the images, though they may drink as much guarapo as they desire.

The cane-mill, which is itself an important and a permanent building, is constructed in exactly the same manner as a regular dwelling. It is usually situated

3: Barrett E-5 (1908-1909)1925
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[177] quest, differs from the other buildings in that it is not raised above the ground and in that it is always enclosed nowadays with lumber obtained from the mills near the mouth of the river. Within the church there is a rude, high altar, with several images of saints; otherwise the building is entirely unfurnished. The front of the church at Pueblo Sapayo Grande is shown in pl. IV, and the fundamental differences in construction between a church and a dwelling are well shown by the contrast between the two buildings in this illustration. [342] The building in the left foreground is the convento, or house of the priest, and is a typical Cayapa dwelling in every respect. The most characteristic features of a church—its lack of piles, its completely enclosed sides, and its roof, the central portion of which is raised some feet above the remainder—are well shown in the illustrations of the church at Punta Venado. This structure, which is the largest of the three churches of the Cayapa, is shown in the background of pl. XXIV and in pls. CCCXII, CCCXIII, CCCXV, and CCCXVII. It is about 80 feet long, 35 feet wide, and about 25 feet high at the ridge of the building. The eaves are about 10 feet above the ground. This building is nearly twice the size of the church at either Pueblo Sapayo Grande or Pueblo San Miguel. Of these two churches the latter is somewhat larger than the former. The church at Punta Venado differs from the other two also in that it has a wooden floor, which, like its sides, is made of sawed lumber. The framework of the church is in all essentials the same as that of a dwelling, except for the fact that the

3: Barrett E-5 (1908-1909)1925
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PITA LEAVES FOR MAKING CORD

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EASTER FESTIVAL AT PUNTA VENADO

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BARRETT—CAYAPA INDIANS

FIRING "SALVOS" IN THE PLAZA

[p. 358(a)]

MUSIC IN A RANCHO

[P. 355(N)]

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3: Barrett E-5 (1908-1909)1925
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3: Barrett E-5 (1908-1909)1925
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drew their spears and permitted passage through the central space between the house-posts. At all other times no one was permitted to pass between these posts, although frequent services were held throughout the night. 796

On the return of the procession to the church and the redepositing of the images, banners, and torches, the space between the house-posts was closed by the spears and the guard kept as before until about 7:30 A.M., when another service, a "gloria," was chanted. During this service the guards circled about each other, each slowly twirling his spear in the right hand, much as a man may twirl a cane. Toward the close of this service the spearmen mounted guard at each house-post, with the spears held vertically and with the points up, but after its conclusion the guard was no longer maintained.

Third day. Sabado Santo, April 10th

After the early morning ceremony above referred to, nothing other than the chanting of rosarios took place in the pueblo until about noon. A dance was then commenced in one of the houses and continued until nearly dawn of the following morning. [535

Fourth day. Domingo de Pasqual, April eleventh

Shortly before dawn, four images of saints were placed in a small "rancho" in the plaza. Here also were brought the marimba, the drums, and the rattles used in the dance during the night. The exterior of this structure, with the rank growth of grass and weeds in the plaza about 796 342 [534]

3: Barrett E-5 (1908-1909)1925
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it, is shown in the background of pl. CXXXII. In pl. CXXXIII part of the structure is just visible below the cloud of smoke before the church, and in pl. CXXXVI it is shown in the background. In both of these the plaza is shown completely cleared of vegetation as it appeared during this particular fiesta. The interior of the "rancho" with the instruments and their players is shown in pl. CXXXIV. Here throughout the day, until about 4 P.M., the music was continued almost without cessation, regardless of the fact that services, processions, and feasts were at different times in progress in the pueblo. It is the custom to give the images guarapo to drink on this one day of the year, and this must be done very ceremoniously and with much music. The images themselves are supposed never to drink rum, nor is it drunk in their presence, but great quantities of guarapo are consumed actually by the fiesteros as well as ceremonially by the images. A small calabash is filled with this drink and is held to the lips of the image for some minutes, or if the image is so placed that the calabash cannot be placed to its lips, they are moistened with guarapo by dipping the finger into the liquid. The images having been allowed to imbibe from this calabash, its contents are either thrown on the ground or drunk by some of those present. In addition, other guarapo is constantly drunk by the fiesteros. Almost no rum is drunk in the vicinity of the "rancho," but in case it is desired to drink rum, etiquette requires that a person must turn away from the saints, otherwise they would be displeased at the sight.

At about 8:30 A.M. a service was held in the church,

3: Barrett E-5 (1908-1909)1925
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BARRETT—CAYAPA INDIANS

THE CEREMONIAL WHIPPING

[p. 342(8)]

juice called *vinagre* in Spanish.

Basketry. Fans, baskets, and pouches, are made in the same style and technique as described by Barrett (Barrett 1925:183-250). There is a market for the fans which are used for fanning the embers in the fire-box when preparing a meal. They are often sold in the coastal towns of San Lorenzo and Esmeraldas as well as in the highland town of Ibarra. The money received for these fans is the property of the woman who made the fans, even though they were sold by her husband.

Weapons. The blowgun has disappeared from general use. Only a few specimens are left. All hunting today is done with the *escopeta* or muzzle-loading shotgun. Serving both as a tool and as a weapon is the machete or /mičte/, and both men and women are quite adept in its use.

Housing.

Probably the cultural feature of the Pacific lowlands which most quickly attracts the eye of the outsider is the type of house used by the rural Negroid population. This is the square or rectangular pile dwelling with four-shed hipped roof of thatch, a peculiar roof crown, and palm-leaf floor

4.Altschuler E-5 (1959-1960) 1965
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and walls. Building materials consist entirely of wood and leaves gathered from the adjacent forest. This type of pile dwelling is one of the diagnostic traits of the Pacific lowland culture area; its distribution extends from western Darien southward to the Santiago River system in Esmeraldas, where it has been introduced by Colombian immigrants. Like most of the peasant material traits of the lowland Negroid people, their houses appear to be a modified form of an Indian prototype (West 1957:114).

Both structures are a major feature of the cultural landscape of the Cayapas River system as well, but the Indian houses are in marked contrast to the Negro domiciles. The Cayapa houses are nearly always rectangular in ground plan and always larger. Cayapa houses range from approximately ninety feet in length by forty feet in width to perhaps somewhat more than half this size. The piles which are sited into a square shape are always made of Guayacan, a heavy, black hardwood that is said to resist the inroads of termites for about twenty years. Eight to ten of these posts are placed on the posts six to ten feet above the ground. Bamboo stringers are laid through notches but in the Guayacan posts, and they serve as a foundation for the plankwood flooring that is laid down at right angles to the bamboo stringers. Sometimes a split level construction

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to removed. In these cases, it is always the rear of the house that is raised about four or five inches. The rear of the house is the cooking area, and it is here that the firebox is located. A common size for the firebox is four feet by five feet and it is packed with earth to a depth of four to six inches. Three posts form a pot holder within which a fire is contained. There will generally be one such cook hearth for each related family resident in the house. Behind the kitchen area a bamboo ramp about three feet wide and twenty feet long serves the boys and men as a urinal; a hole about three feet out from the house serves the girls, women and infants.

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The gabled roof is pitched at about a forty-five degree angle and is framed by long single lengths of bamboo. The thatch consists of the long leaves of the Yagua palm which may reach a length of fourteen to sixteen feet. From the midrib of the leaf, a series of leaflets extend out for approximately three feet. Two or three months before roofing, the leaves are cut down and collected in the Yagua patch and placed on a low bamboo rack for drying. Sometimes the Yagua patch is a considerable distance behind the house, in which

[824]

case the leaves are brought to the site by hand. Many times the leaves have to be freighted on the river; for these occasions two canoes are joined by heavy bamboo poles, thus forming a raft, and the leaves are piled on top to a height of four to five feet. Two men then pilot the raft, one from the rear and one from the front. When the site is reached, the raft is tied to a paddle which is thrust into the bank, and the leaves are handed up a human chain composed of five to ten people extending from the raft to the actual house site.

In contrast to the Negro houses Cayapa houses mostly lack walls. Because of this, Cayapa home life is much more open to Negro inspection than is the reverse. In regard to construction, the Cayapa never use wood planking. Negroes, on the other hand, regard wooden planking for the floors and walls as a sign of wealth and try to have at least some planking. The underside of the house for both Negroes and Indians serves as a storage area for the canoes.

When they are off in the bush for several days hunting, or when roughing out a canoe, the Cayapa build

small temporary shelters called by the Spanish term *ranchos*. In general construction these *ranchos* are similar to the permanent houses, but they may be only a foot or two off the ground. As the property holdings of most Cayapa are scattered, many build second permanent houses at other convenient sites and alternate residences as the farming situation dictates. If relatives have a house in the area already, then a new house need not be built, and shelter is taken with the kin. It is possible for a family to have no permanent abode of its own but rather to shift back and forth between relatives who happen to live near their property. This, however, is a very rare occurrence, and in the few cases recorded, I suspect that it is transitory. A "complete" person "*un hombre completo*" to be fully adult should be master of his own house. Pedrito Ahapa, for example, was living with relatives, but he was bewitched and suffered from many illnesses, and in addition his land was "spoiled" by witchcraft. Despite this, he still felt that the best thing for him to do was to get some land elsewhere, and set up an independent household.

Subsistence Activities. Farming is the main occupation

had defecated while nursing and the mother reacted explosively. She shouted at the infant, forcibly removed it from the breast, held it at arms length and shook it back and forth, screaming that the child was bad. Not a sound escaped from the infant, as its head bobbed back and forth. As the mother regained her composure and began to clean the child, it began to howl. In a few minutes it was cleaned . . . she now gave the breast to the infant, which it seized with a frantic intensity . . . (Altschuler 1960: field notes).

Many Cayapa women are undoubtedly fairly matter-of-fact about their infants' excretions but, without being able to count cases, my impression is that the general attitude toward uncontrolled elimination is in the direction of the cited example: that is, the mother or surrogate, when required to clean the child, displays decidedly negative feelings (if only in gestural signal that are clearly communicated to the infant. Every Cayapa house had a causeway about five feet above the ground, which is about three feet wide and perhaps thirty to forty feet long, that runs from the cooking area in the rear out into the semicleared area behind. Adult males and boys walk out to edge of the causeway to urinate. A small hole, placed not very far from the house, is used by the women and girls. Adults and toilet-trained

The Negroes, however, wean their children after one year, and some Cayapa women are beginning to imitate them. Weaning is accomplished by shaming or ridiculing the child, or frightening him with stories of cannibalistic ogres, or applying bitter tasting substances to the nipple.

The Cayapa child between the ages of three to five is marked by what appears to be incipient rickets, rotted teeth and skin diseases that arise from a marked deficiency in vitamins A, C and D. This stems in major part from the fact that the child is generally kept within the confines of the home at these ages. The Cayapa house is usually built without walls: it is a roof supported by tall posts, and is perched above the ground on a hill overlooking a river. If the infant should manage to climb down the ladder to the ground, and somehow avoid tumbling down the hill into the river, he must still contend with snakes that are fairly common in the area. Consequently his movements within the house are restricted and he is effectively blocked off from direct sunlight and on cacao trips he is usually placed under a canopy. While fruit is plentiful, it is

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clearing. He worked alone for perhaps two hours before he was joined unenthusiastically by eight other men. They all worked separately and at a considerable distance from each other. Other men made minor repairs to the church, and still others made small repairs to the houses surrounding the plaza. All of the houses were in very poor repair, but no one felt obliged to undertake the effort required to make really good repairs. The houses were only used during Easter and Christmas, and none of the inhabitants felt sorely pressed.

The second day of Easter saw people busily engaged in building bamboo cross poles to which were fastened candles. That evening, about six, all of the fieleres, dressed in their finery, formed a procession. A Negro carried a large statue of a saint in his arms at the head of the parade. Behind him, forming a straggling line, two and three abreast, came the Cayapa. Some men and women held candles in their hands, some men carried the large bamboo cross-poles with six to eight candles. Some carried the smaller statues of the saints. They walked around the church three times, and then entered. Groups of Negroes were present and they sang hymns in Spanish. The Cayapa like to have the

Once a year, as a rule,

groups of Cayapa will band together for protection against the cutthroats and brigands that infest the coastal regions, load their canoes with as much rubber as they have been able to collect, and set off in small flotillas. Sometimes they are joined by a few Negroes. Bringing rubber into Colombia in this manner is illegal and it is also illegal to bring back Colombian goods into Ecuador. The Cayapa are very conscious of the illicit nature of the activity and the trip to them is a big adventure. Rubber is their only economic product that is of value in Colombia. The price varies from year to year, but generally fluctuates around the equivalent of thirty dollars U. S. per one hundred pounds. Unfortunately, rubber trees are subject to poaching.

If the land is sufficiently remote, it may be good for raising pigs. (Remoteness lessens the possibility of theft.) Fruit trees are very often planted by women when they marry. The most popular fruits are chirimoya, a kind of custard apple, oranges and sapotes. Large sections are planted to the tagua palm that, at one time, was as important economically as the banana is today. The tagua nut is only a minor item in the

diet now, but the leaves are in demand for roofing material. Another cash crop is hardwood trees, but they are not often planted; enterprising individuals cut them out of the unclaimed forest.

Land is seldom held in one large block. It is usually scattered about among other holdings so that, quite often, choice properties are separated by distances involving several day's travel. Many Cayapa have two houses, each built as close as possible to their main holdings. Inevitably, they must spend considerable time away from large sections of their property and, as a result, Negroes often illegally harvest standing crops or, perhaps, plant their own. Negroes may buy land from the Cayapa, but as the banana economy continues to boom, the Indians are more and more reluctant to sell. Sometimes usufruct is rented by the Negro, usually for a share of the profits, but arguments invariably develop. It is said that the Indian is always at a disadvantage in his dealings with the Negro because of the letter's readiness to engage in witchcraft and "spoil" the land for the Indian owner. If several members of an Indian's family sicken or die, after a recent quarrel with a Negro about land, it is assumed that witchcraft has been